PDR RID Report

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Document PDR

RID ID PDR 361
Review SDPS
Originator Ref Proc Queue Change
Priority 1

Section **Page** **Figure** **Table**

Category Name Requirements **Actionee** HAIS
Sub Category Planning/Scheduling
Subject Evaluation of queue priority change impacts on overall plan

Description of Problem or Suggestion:

The ability to juggle the processing queue raises the possibility that such juggling might lead to undesirable effects downstream, (which would have been caught if the juggling were done by replanning). Some COTS processing might provide downstream looks, but if these tools are not ultimately used (or configured?) the downstream-look requirement will fall through the cracks.

Originator's Recommendation

Add a requirement in PRONG to protect or warn the operator against serious downstream effects of queue modification.

GSFC Response by: **GSFC Response Date**

HAIS Response by: T. Suhrstedt **HAIS Schedule** 3/24/95
HAIS R. E. J. Martin **HAIS Response Date** 5/10/95

As part of a complete solution, new level 4 requirements may be necessary to address the recommendations resulting from this RID. The following summarizes the problem and ongoing work which will be performed to complete the response to this RID.

The ability to modify the position of a queued Data Processing Request has been recognized as a function that would assist the Operations Staff in managing the production of science data products. This function would allow the Operations Staff to react to real-time, non-planned events, such as resource failures and PGE execution failures, to ensure timely production. Although the modification of a queued Data Processing Request may impact its predicted execution time, the impact on the overall predicted plan of production will be small. Moreover, since the queue modifications are generally limited (an operator typically would change a single queue entry, or a small number of queue entries), the impact typically would be very limited in scope. Downstream effects are also limited by the fact that the queue itself is limited in size (typically in the order of hours or less). Therefore, this capability would only be needed to determine the short-term consequences of the modification of a Data Processing Request. Nevertheless, we will further analyze this issue to respond to the concern.

The following areas will be examined to study the potential impact that Queue modification may have:

(1) Type of modifications to allow on the data associated with a Data Processing Request. Should the modification of Data Processing Request Data be restricted to certain data, such as Resource Data and Priority information ?

(2) Should Planning or Processing support Active Plan "what-if" capabilities, such as the following:
a. Determine impact on the active plan.
b. Determine the impact on the Science Data Processing HAW resources, such as impact on the amount of staging.
Please note that there are no level 3 requirements which specify this type of function, but determining the short-term consequences of a modification to a Data Processing Request will be examined. The Design goal is to identify to the Operations staff the resulting processing which would be delayed as a result of the modification. Only processing which has all other dependencies, i.e. data and resources, met would be identified. The overall impact on the active plan of modifying a complete set of Data Processing Requests would still only be determined through the creation of a candidate plan.

(3) Determine the support, if any, that the COTS packages provides for this function.

(4) Determine the cost associated with providing this support if not provided by the COTS.

Each of these areas will be analyzed to determine the impact this function will have and how much automation support, if any, is required to assist Operations in using this function. As stated before, this analysis will also determine whether additional level 4 requirements are required in the Processing and Planning CSCIs.

Because of the impact that the COTS product selection may have on the implementation of this function, the analysis associated with this RID will continue until the end of June. The schedule for choosing the COTS product, which includes responses to the

required to assist Operations in using this function. As stated before, this analysis will also determine whether additional level 4 requirements are required in the Processing and Planning CSCIs.

Because of the impact that the COTS product selection may have on the implementation of this function, the analysis associated with this RID will continue until the end of June. The schedule for choosing the COTS product , which includes responses to the RFP and evaluation process, will conclude by the beginning of June. This schedule will allow PDPS to address exactly what the COTS modification function provides and what additional support will be provided through custom software. The cost impact of the solution will be mitigated by integrating the overall solution with the modification function as provided by the selected COTS product.

Status **Closed** **Date Closed** **5/24/95** **Sponsor** **Marinelli**

****** **Attachment if any** ******